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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,523

01/23/2006

John Stark

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OSTROLENK FABER GERB & SOFFEN  
1180 AVENUE OF THE AMERICAS  
NEW YORK, NY 100368403

EXAMINER

DRODGE, JOSEPH W

ART UNIT

PAPER NUMBER

1797

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DELIVERY MODE

03/23/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,523	<b>Applicant(s)</b> STARK, JOHN	
	<b>Examiner</b> Joseph W. Drodge	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                          |

Art Unit: 1797

### RESTRICTION REQUIREMENT WITHDRAWN

The Arguments traversing the restriction requirement in the Response filed 2/13/2009 were persuasive and the restriction requirement has been withdrawn; claims 8-11 are thus rejoined.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 1797

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-10 of Stark et al U.S. Patent No. 7,128,092 and claims 20-31 of Stark et al patent 6,701,960. Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims and claims of '092 and '960 all commonly claim a separating system comprising double-cone pumping devices, plural separation units, reverse osmosis desalination units and recycling of the brine concentrate from the reverse osmosis units to the pumping devices.

Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Recitations in claims 1 and 8 of "more specifically saline" and "more specifically the salt concentration" are vague and indefinite since it is unclear whether merely contaminated water or merely a concentration of contaminant, would meet the limitations.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

Art Unit: 1797

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chancellor patent 6,547,965 in view of Uhlinger patent 4,341,629, Chandler et al patent 5,147,530, and Straub et al patent 4,792,284. Chancellor discloses for claims 1-7, a water treatment and desalination system comprising a well pump arrangement, having an inlet, a purification unit (other or various filters 130), holding tank/reservoir 140, separating unit(s) in the form of at least one reverse osmosis membrane filter operable to separate water into sweet water and brine, brine lines and means to recycle permeate or brine from the separating unit as energy and a source of feed water for the pump arrangement. See especially (column 3, lines 34-53 and column 4, lines 4-18).

Claims 1-8 and 11 firstly differ in requiring that the well pump arrangement comprise at least one double-cone or other well pump device and that brine from the reverse osmosis membrane separators be recycled to the pump. However, Straub teaches a water desalination system using at least one double-cone pumping device [as in claims 2,3 and 11] and an arrangement to recycle brine or concentrate from membrane permeators, suggested as being reverse osmosis units since they desalinate, back to the pumping device (figure 15 and column 7, lines 19-54). Similarly Chandler et al teach a well pump arrangement with a system to obtain purified water in which water is pumped from a well using a double-cone like pumping arrangement (pump unit having a converging cone section, intermediate jet region and diverging cone region, see figure 2 and column 5, lines 27-45), with brine or partially purified water from a

Art Unit: 1797

separation unit 75 being recycled to the pump in the well. Hence, it would have been obvious to one of ordinary skill in the water purification arts, to have adapted the double-cone device of Chandler and Straub, as the pumping arrangement in the Chancellor system, since such pumping arrangement offers increased pumping and energy efficiency as well as optimally utilizing the energy derived from the membrane purification unit(s).

Claims 1-7 additionally differ in requiring that the reservoir or tank be intermediate purification unit and further separation unit. However, Uhlinger teaches a system to desalinate water having initial pre-filter purification units, and intermediate reverse osmosis units and holding tanks before final reverse osmosis separation units (figure 2 and column 4, lines 22-53). It would have been additionally obvious to have incorporated the intermediate holding tank(s) of Uhlinger in order to increase the volume capacity of the system so as to service larger populations or industrial concerns (see Uhlinger at column 3, lines 55-60).

Claims 8 and 11 additionally differ in requiring stopping and starting of brine flow in response to concentration of salt or other contaminant in the brine. However, Uhlinger suggests control of the output flow from the desalination units based on sensed concentration from outlets (column 5, lines 1-14 and column 6, lines 52-59, also column 7, lines 28-33, etc.). It would have been additionally obvious to have incorporated the sensing and control features of Uhlinger into the modified Chancellor arrangement, to avoid damage to the pump components.

For claim 2, Straub further teaches use of 2 or more double cone devices in series for increased power (column 6, lines 39-43 etc.). For claims 3,5 and 6, Chancellor suggests addition of a plurality of circulating pumps at column 4, lines 31-38; also see pump 56 at figure 15 of Straub and pump 10 of Uhlinger. Chancellor and Uhlinger teach a plurality of separation and

Art Unit: 1797

purification units in series and accompanying energy recovery loops for claim 4. Uhlinger teaches pressure regulating valves 74 and 56 at inlet and outlet from the reservoir tank.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chancellor patent 6,547,965 in view of Uhlinger patent 4,341,629 and Straub et al patent 4,792,284 as applied to claims 1-8 and 11 above, and further in view of Brandt et al patent 5,695,643. Claims 9 and 10 further differ by requiring either diluting (increasing volume) of brine solution with well water be mixing other well water with the brine. Brandt recycles reverse osmosis brine in a system for purifying and reusing oil production fluid in which such dilution occurs (column 12, line 64-column 13, line 22) with express motivation to maintain salt concentrations such that salt will not come out of solution to plug the well.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. O'Connor et al patent 4,366,063; Briant et al patent 6,036,870; Chandler et al patent 5,147,530 and Brandt et al patent 5,695,643, also Stark et al patent 7,077,207 and EP Document 1,243,746 all concern systems to purify and recycle water directly or indirectly obtained from well systems, treat the water by means including reverse osmosis and recycle the water to the well systems. Buchanan et al PGPUBS Document US 2002/006658 concerns pumps in series in a well. Bruton patent 3,616,912 is of interest with respect to claims 8-11 and is directed to controlling flow of water between oil well drilling equipment and a purifying system including a softener associated with means to monitor salt concentration.

Any inquiry concerning this communication or earlier communications from

Art Unit: 1797

the examiner should be directed to Joseph Drodge at his direct government telephone number of 571-272-1140. The examiner can normally be reached on Monday-Friday from approximately 8:30 AM to 12:30 PM and 2:00 PM to 6:00 PM.

Alternatively, to contact the examiner, send a communication via E-mail communication to the Examiner's Patent Office E-mail address: "Joseph.Drodge@uspto.gov". Such E-mail communication should be in accordance with provisions of MPEP (Manual of Patent Examination Procedures) section 502.03 & related MPEP sections. E-mail communication must begin with a statement authorizing the E-mail communication and acknowledging that such communication is not secure and will be made of record, under Patent Internet Usage Policy Article 5. A suggested format for such authorization is as follows: "Recognizing that Internet communications are not secure, I hereby authorize the USPTO to communicate with me concerning any subject matter of this application by electronic mail. I understand that a copy of these communications will be made of record in the application file.

Additionally, the examiner's supervisor, David Roy Sample, of Technology Center Unit 1797, can be reached at 571-272-1376.

The formal facsimile phone number, for official, formal communications, for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you



Application/Control Number: 10/565,523

Page 8

Art Unit: 1797

have any questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

JWD

3/18/2009

/Joseph W. Drodge/

Primary Examiner, Art Unit 1797